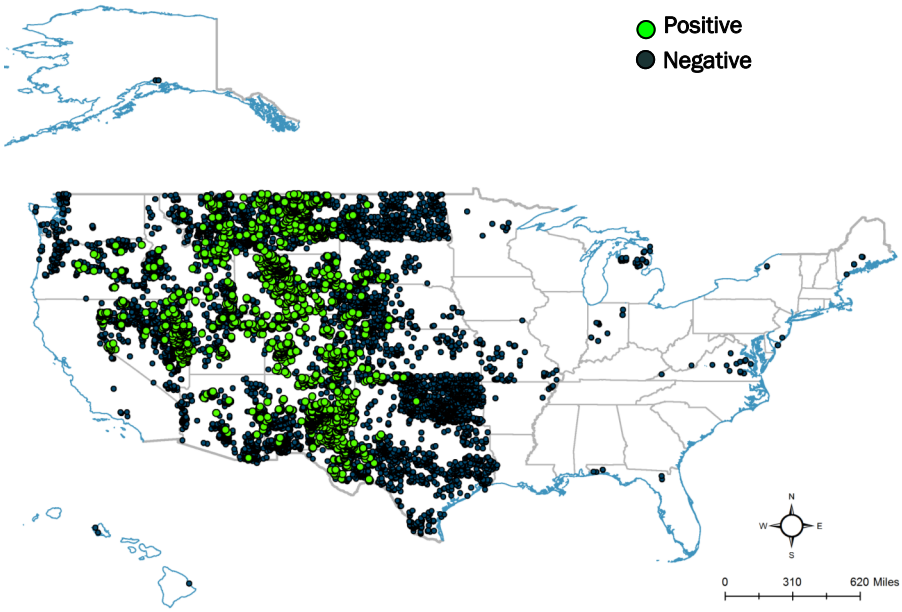
Program Activity Report (PAR)

Plague Surveillance Update

The NWDP has been conducting surveillance for plague exposure in wildlife since 2006. This large scale surveillance project, which collects and screens samples from across the western US, was initiated in response to the health risks associated with plague infection in humans, domestic animals, and species of conservation concern.



Plague is caused by the bacteria, *Yersinia pestis,* and while it often causes limited morbidity and mortality in some species, it can also result in severe clinical disease and death in humans and other species. Human plague infections are now rare in the US, but they are still regularly documented and the disease remains a public health burden in other parts of the world. Domestic animal infections also still occur in the Western United States and the disease has been an issue for multiple threatened non-domestic species, such as the black-footed ferret (*Mustela nigripes*) and the Canada lynx (*Lynx canadensis*).

In 2012, Wildlife Disease Biologists with the NWDP and collaborating health agencies collected 5400 samples for the Plague and Tularemia Archive. These samples originated from nearly 50 different species found across the US. A subset of these samples were submitted to the Centers for Disease Control for plague testing, and approximately 2% were positive for *Y. pestis* antibodies. This is a lower number than we typically see for overall plague prevalence, and likely reflects the limited amount of testing that is currently undertaken. Samples that have not yet been tested are being stored in the NWDP Plague and Tularemia Archive and could be screened in the future using assays that are currently being developed. A majority of the positive animals in 2012 were coyotes (*Canis latrans*), although one bobcat (*Lynx rufus*) also tested positive.

Looking at the surveillance effort in its entirety, from 2006 through the end of 2012, the NWDP has screened 30,155 samples for plague exposure; 9.4% were positive, although some specific species and regions within the overall project have average prevalence levels that are substantially higher. This indicates that *Y. pestis* is very much present in the western landscape and that animals are regularly exposed or re-exposed to the bacterium. These data offer the opportunity to examine plague ecology in detail, and will hopefully continue to provide information on disease patterns across space and time.

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The original artwork on this page was created by the National Wildlife Disease Program's Erika Kampe and Sarah Goff